ABSTRACT

The present invention relates to a semiconductor integrated circuit and a wireless communication apparatus that can be reduced in size without deteriorating a receiving sensitivity and a transmission efficiency. Communication with an external reader/writer and an external non-contact IC card is carried out through a common antenna 211. The signal received from the external reader/writer or the external non-contact IC card through the antenna is supplied to an ASK demodulation circuit 149 and demodulated. The signal received from the external reader/writer is full-wave rectified and smoothed by an full-wave rectification and smoothing circuit composed of diodes 231, 232 and a capacitor 233, and the power obtained from the full-wave rectified and smoothed signal is supplied to respective units of a semiconductor integrated circuit 101. The present invention can be applied to a mobile phone.